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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,928	11/28/2001	Ki-hyun Kim	1293.1243	7271

49455 7590 12/28/2005

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EXAMINER
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LUGO, DAVID B

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/994,928

**Applicant(s)**

KIM ET AL.

**Examiner**

David B. Lugo

**Art Unit**

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 3 and 13 is/are rejected.
- 7) ☒ Claim(s) 4-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 10/7/05 have been fully considered but they are not persuasive. Regarding the rejection of claim 3 under 102(e) as being anticipated by Kim, Applicant argues that Kim does not disclose an optimal path searching unit which uses only an error signal at the region having the maximum likelihood of error to find a minimum error generation path. In response, the rejection also cites col. 10, line 4-9 where error correction unit 200 is described as detecting whether the length of consecutive 1s corresponding to the mark group does not comply with the quantized value, and if not, one or more bit values are corrected such that the length has one of quantized values. The portion of the error correction unit 200 that detects whether the length does not comply with the quantized value is considered a maximum error region determining unit which determines a region having a maximum likelihood of error, and the portion of the error correction unit 200 that corrects one or more bit values such that the length has one of quantized values is considered an optimal path searching unit. The processes performed by the maximum error region determining unit portion of the error correction unit 200 and the optimal path searching unit portion of the error correction unit 200 are described in col. 10, lines 11-51. The result of the detection by the error correction unit 200 of whether the length complies with the quantized value is considered to be an error signal used by the optimal path searching unit portion of the error correction unit 200 to find a minimum error generation path (i.e. 4, 2, n or 3 – Fig. 6A). Kim is thus considered to teach the limitation of an optimal path searching unit which uses only an error signal at the region having the maximum likelihood of error to find a minimum error generation path. The rejection of claims 3 and 13 are maintained.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 3 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim U.S. Patent 6,697,311.

Regarding claim 3, Kim discloses a signal processing apparatus for reproducing and original recorded signal from a predetermined channel signal comprising a maximum error region determining unit 200 which determines a region having a maximum likelihood of error (i.e. signal at transition region – see Fig. 6, col. 10, lines 4-19) and performs an optimal path searching function to find a minimum error generation path (4, 2, n, or 3 – Fig. 6A) to correct a part of the signal (col. 10, lines 29-51), and a signal recovery unit (demodulator 300) which applies a predetermined algorithm to the channel signal including the corrected portion in order to recover the original data.

Regarding claim 13, the demodulator 300 is considered to recover the data using a threshold decision (col. 9, lines 1-11).

***Allowable Subject Matter***

4. Claims 14-20 are allowed.

5. Claims 4-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

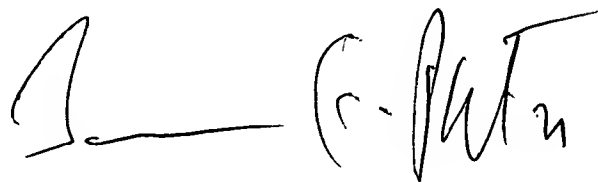
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Lugo  
12/22/05

A handwritten signature in black ink, appearing to read "J. K. Patel", with a stylized flourish at the end.

**JAY K. PATEL**  
**SUPERVISORY PATENT EXAMINER**